

WHAT IS CLAIMED IS:

- 1                   1.     A cosmetic mirror for providing a variable magnification  
2     factor comprising:  
3                   a housing having an internal annular region oriented about a central  
4     axis;  
5                   a flexible substrate having a peripheral edge, a front surface, and an  
6     opposed rear surface, the peripheral edge being affixed to the housing, the rear  
7     surface having a connector extending centrally therefrom;  
8                   a reflective coating provided on one of the front and rear surfaces,  
9     the reflective coating causing the substrate to be reflective when viewed by a user  
10    from the front surface side;  
11                  an electric motor/transmission assembly mounted to the housing,  
12    the electric motor/transmission assembly having an output member, operably  
13    engaged with the connector, for displacing the connector fore and aft relative to the  
14    housing annular region and consequently flexing a central portion of the substrate  
15    fore and aft relative to the housing annular region thus varying the magnification  
16    factor of the flexible surface; and  
17                  a user-selectable switch connecting a source of power to the electric  
18    motor/transmission assembly for providing user adjustment of the magnification  
19    factor.
- 1                   2.     The cosmetic mirror of claim 1, wherein the housing internal  
2     annular region limits maximum curvature of the flexible substrate.
- 1                   3.     The cosmetic mirror of claim 1, wherein the connector  
2     includes a ball joint.
- 1                   4.     The cosmetic mirror of claim 1, wherein the connector  
2     provides an annular connection to the rear side of the flexible substrate.
- 1                   5.     The cosmetic mirror of claim 1, wherein the flexible substrate  
2     is provided with a touch sensor cooperating with the switch.

1                   6.       The cosmetic mirror of claim 5, wherein the touch sensor is  
2   a capacitive switching circuit pad.

1                   7.       The cosmetic mirror of claim 1, wherein the housing includes  
2   an external portion defining a central opening; and  
3                   an internal frame for supporting the flexible substrate and the electric  
4   motor / transmission assembly.

1                   8.       The cosmetic mirror of claim 1, wherein the switch is  
2   received by the housing.

1                   9.       The cosmetic mirror of claim 1 further comprising an  
2   information display mounted on the front surface of the flexible substrate.

1                   10      The cosmetic mirror of claim 9 further comprising at least one  
2   light source mounted on the front surface of the flexible substrate.

1                   11      The cosmetic mirror of claim 10 further comprising the switch  
2   mounted on the front surface of the flexible substrate providing control of the  
3   information display and the at least one light source.

1                   12.      The cosmetic mirror of claim 10 wherein the at least one light  
2   source provides a plurality of light modes including a night light setting.

1                   13.      The cosmetic mirror of claim 10 wherein the at least one light  
2   source provides an automatic shut off feature.

1                   14.      The cosmetic mirror of claim 1, wherein the flexible substrate  
2   includes at least one non-reflective portion.

1                   15.      The cosmetic mirror of claim 14, wherein the at least one non-  
2   reflective portion is an opening in the reflective coating.

1                   16.    The cosmetic mirror of claim 14 further comprising an  
2   information display received by the at least one non-reflective portion and viewable  
3   by a user.

1                   17.    The cosmetic mirror of claim 14 further comprising at least  
2   one light source received by the at least one non-reflective portion.

1                   18.    The cosmetic mirror of claim 17 wherein the at least one light  
2   source provides a plurality of lighting modes including a night light setting.

1                   19.    The cosmetic mirror of claim 17 wherein the at least one light  
2   source provides an automatic shut-off feature.

1                   20.    The cosmetic mirror of claim 17, wherein the at least one  
2   non-reflective portion receives the switch, the switch controlling the information  
3   display and the at least one light source.

1                   21.    A cosmetic mirror for providing variable magnification  
2   comprising:

3                   a housing having an internal annular region formed about a central  
4   axis;

5                   a flexible substrate having a peripheral edge, a front surface, and an  
6   opposed rear surface, the peripheral edge being affixed to the housing, the rear  
7   surface having an annular connector extending centrally therefrom;

8                   a reflective coating provided on one of the front and rear surfaces,  
9   the reflective coating causing the substrate to be reflective when viewed by a user  
10   from the front surface side; and

11                  a handle shiftably connected to the housing and operably engaged  
12   with the connector, where movement of the handle displaces the connector fore and  
13   aft along to the housing central axis and consequently flexing a central portion of the  
14   flexible substrate thus varying the magnification of an image viewed by the user.

1                   22.    The cosmetic mirror of claim 21, wherein the housing  
2   assembly limits maximum curvature of the flexible substrate.

1                   23.    The cosmetic mirror of claim 21, wherein the annular  
2   connector includes a ball joint.

1                   24.    The cosmetic mirror of claim 21, wherein the housing  
2   includes an external portion defining the opening and annular region; and  
3                   an internal frame for supporting the flexible substrate and the handle.

1                   25.    The cosmetic mirror of claim 21 includes an information  
2   display mounted on the front surface of the flexible substrate and viewable by a  
3   user.

1                   26.    The cosmetic mirror of claim 25 includes at least one light  
2   source mounted on the front surface of the flexible substrate.

1                   27.    The cosmetic mirror of claim 26 wherein the at least one light  
2   source provides a plurality of light modes including a night light setting.

1                   28.    The cosmetic mirror of claim 26 wherein the at least one light  
2   source provides an automatic shut off feature.

1                   29.    The cosmetic mirror of claim 26 includes a user-selected  
2   switch mounted on the front surface of the flexible substrate and connecting a source  
3   of power to and providing control of the information display and the at least one  
4   light source.

1                   30.    The cosmetic mirror of claim 29, wherein the housing  
2   receives the user-selectable switch.

1                   31.     The cosmetic mirror of claim 21, wherein front surface of the  
2 flexible substrate includes at least one non-reflective portion.

1                   32.     The cosmetic mirror of claim 31, wherein the at least one non-  
2 reflective portion is an opening in the flexible substrate.

1                   33.     The cosmetic mirror of claim 31, wherein the at least one non-  
2 reflective portion is a substrate window in the flexible substrate.

1                   34.     The cosmetic mirror of claim 31 includes an information  
2 display received by the at least one non-reflective portion for being viewable by a  
3 user.

1                   35.     The cosmetic mirror of claim 34 includes at least one light  
2 source received by the at least one non-reflective portion.

1                   36.     The cosmetic mirror of claim 35 wherein the at least one light  
2 source provides a plurality of light modes including a night light setting.

1                   37.     The cosmetic mirror of claim 35 wherein the at least one light  
2 source provides an automatic shut off feature.

1                   38.     The cosmetic mirror of claim 35, wherein the at least one  
2 non-reflective portion receives a user-selectable switch connecting a source of power  
3 to and providing control of the information display and the at least one light source.

1                   39.     The cosmetic mirror of claim 38, wherein the flexible mirror  
2 is provided with a touch sensor cooperating with the switch.

1                   40.     The cosmetic mirror of claim 37, wherein the touch sensor is  
2 a capacitive switching circuit button.

1                   41.     A double-sided cosmetic mirror comprising:  
2                   a housing with a first end opening and a second end opening;  
3                   a first substrate having a first peripheral edge, a first front surface,  
4 and an opposed first rear surface, the first peripheral edge being affixed within the  
5 first opening of the housing;  
6                   a first reflective coating provided on one of the first front and the first  
7 rear surfaces, the first reflective coating causing the first substrate to be reflective  
8 when viewed by a user from the first front surface side;  
9                   a second substrate having a curvature substantially different from the  
10 first substrate, the second substrate having a second peripheral edge, a second front  
11 surface, and an opposed second rear surface, the second peripheral edge being  
12 affixed within the second opening of the housing;  
13                   a second reflective coating provided on one of the second front and  
14 the second rear surfaces, the second reflective coating causing the second substrate  
15 to be reflective when viewed by the user from the second front surface side;  
16                   a first information display oriented the first substrate for being  
17 viewable by a user;  
18                   a second information display oriented the second substrate for being  
19 viewable by the user;  
20                   an information source circuit connected to and controlling both the  
21 first and second information displays; and  
22                   at least one user selectable switch cooperating with the information  
23 source circuit for controlling the first and second information displays.

1                   42.     The double-sided cosmetic mirror of claim 41, further  
2 comprising at least one light source received by the housing; and  
3                   the at least one switch controlling the at least one light source for  
4 selective operation thereof.

1                   43.    The double-sided cosmetic mirror of claim 41, further  
2 comprising:  
3                   at least one first light source mounted on the first substrate;  
4                   at least one second light source mounted on the second substrate; and  
5                   the at least one switch controlling the at least one first light source  
6 and the at least one second light source for selective operation thereof.

1                   44.    The double-sided cosmetic mirror of claim 41 further  
2 comprising:  
3                   a support base; and  
4                   a pivot axle mounted to the support base and pivotably attached to the  
5 housing for rotating the housing about the pivot axle, and thereby allowing the user  
6 to rotate the housing about the pivot axle to view the first front surface and the  
7 second front surface.

1                   45.    The double-sided cosmetic mirror of claim 41, wherein the  
2 information source circuit is a clock circuit.

1                   46.    The double-sided cosmetic mirror of claim 41, wherein the  
2 first substrate is provided with at least one touch sensor cooperating with the at least  
3 one user selectable switch; and  
4                   the second substrate is provided with at least one touch sensor  
5 cooperating with the at least one user selectable switch.

1                   47.    The double-sided cosmetic mirror of claim 41, wherein the at  
2 least one user selectable switch is a capacitive switching circuit button.

1                   48.    The double-sided cosmetic mirror of claim 41 includes:  
2                   at least one first non-reflective portion on the first substrate; and  
3                   at least one second non-reflective portion on the second substrate.

1                   49.     The double-sided cosmetic mirror of claim 48, wherein the at  
2     least one first non-reflective portion is a first opening in the first substrate; and  
3                   the at least one second non-reflective portion is a second opening in  
4     the second substrate.

1                   50.     The double-sided cosmetic mirror of claim 48, wherein the at  
2     least one first non-reflective portion is a first substrate window in the first substrate;  
3     and  
4                   the at least one second non-reflective portion is a second substrate  
5     window in the second substrate.

1                   51.     The double-sided cosmetic mirror of claim 48, wherein the at  
2     least one first non reflective portion cooperates with the first information display;  
3     and  
4                   the at least one second non reflective portion cooperates with the  
5     second information display.

1                   52.     The double-sided cosmetic mirror of claim 48, wherein the at  
2     least one first non reflective portion cooperates with the at least one first light  
3     source; and  
4                   the at least one second non reflective portion cooperates with the at  
5     least one second light source.

1                   53.     The double-sided cosmetic mirror of claim 52 wherein the at  
2     least one first light source and the at least one second light source provide a plurality  
3     of lighting modes including a night light setting.

1                   54.     The double-sided cosmetic mirror of claim 52 wherein the at  
2     least one first light source and the at least one second light source include an  
3     automatic shut-off feature.



1                    55.     The double-sided cosmetic mirror of claim 48, wherein the at  
2     least one first non reflective portion oriented with the at least one first switch  
3     providing control of the first information display and the at least one first light  
4     source; and  
5                    the at least one second non reflective portion oriented with at least  
6     one second switch providing control of the second information display and the at  
7     least one second light source.